Bariatric Surgery and Inflammatory Bowel Disease: a Role for Microbiota?

Dear Editor,

The increasing worldwide incidence of inflammatory bowel diseases (IBD) steadily parallels the diffusion of Western life style [1]. Diet is considered the main factor associated to life style and induces significant alteration in the gut microbiome, the “ring chain” that can explain new onset of diseases, particularly inflammatory diseases [2–4].

Obesity also poses a major risk, not only for diet-related non communicable diseases, such as diabetes, but also for IBD [5]. Currently, bariatric surgery is the more appropriate therapeutic option for obese patients who failed an adequate exercise and diet program, and who present with obesity-related comorbid conditions. Few data about the efficacy and safety of bariatric surgery in patients affected by IBD are available in literature, probably due to the fear to perform abdominal surgery in these patients [6,7].

In a recent interesting paper, McKenna et al. described the outcomes of 31 patients affected by IBD who underwent bariatric surgery, including Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy (SG), and gastric band placement, at Mayo Clinic in Rochester, Minnesota [8]. They concluded that, in carefully selected IBD patients (in particular upon exclusion of Crohn’s disease patients with upper gastrointestinal active disease location), bariatric surgery seemed to be not only effective (weight lost at one and two years after surgery was of about 70% and 60%, respectively, comparable to the literature data [9]), but also safe (they did not observe any major surgical complication and no IBD patients relapsed).

These results raise two issues. This study [8] supports the feasibility of bariatric surgery in patients with IBD, but a comparison with a control group of patients without IBD, matched for sex, age and comorbidities, who underwent bariatric surgery, would add more objective data regarding safety and efficacy of this type of intervention. Furthermore, a

comparison of two IBD groups, one that underwent bariatric surgery and a control non-surgical group, would provide further information concerning the IBD evolution related to surgery.

The second issue is a suggestion regarding the design of future studies on bariatric surgery in IBD patients. As reported above, microbiota, obesity and inflammation are believed to share a strong relationship. In our opinion, future studies should analyze gut microbiome of IBD patients before and after bariatric surgery and correlate differences with IBD course after this intervention. The question that remains is: could bariatric surgery, with its extraordinary effects on weight loss, be not only safe but also effective in reducing inflammation, through modification of gut microbiome?

Author 1: no conflict of interest

Author 2: no conflict of interest

This article does not contain any studies with human participants or animals performed by any of the authors.

Informed Consent Statement: Does not apply.

References

1. Windsor JW, Kaplan GG. Evolving Epidemiology of IBD. Curr. Gastroenterol. Rep. Current Medicine Group LLC 1; 2019.

2. Bilski J, Mazur-Bialy A, Wojcik D, Surmiak M, Magierowski M, Sliwowski Z, et al. Role of Obesity, Mesenteric Adipose Tissue, and Adipokines in Inflammatory Bowel Diseases.

Biomolecules. 2019;9.

3. Ribaldone DG, Pellicano R, Actis GC. Inflammation in gastrointestinal disorders: prevalent socioeconomic factors. Clin Exp Gastroenterol. 2019;Volume 12:321–9.

4. Ribaldone DG, Caviglia GP, Abdulle A, Pellicano R, Ditto MC, Morino M, et al. Adalimumab Therapy Improves Intestinal Dysbiosis in Crohn's Disease. J Clin Med. Multidisciplinary Digital Publishing Institute; 2019;8:1646.

5. Seminerio JL, Koutroubakis IE, Ramos-Rivers C, Hashash JG, Dudekula A, Regueiro M, et al. Impact of Obesity on the Management and Clinical Course of Patients with Inflammatory Bowel Disease. Inflamm Bowel Dis. Lippincott Williams and Wilkins; 2015;21:2857–63.

6. Shoar S, Shahabuddin Hoseini S, Naderan M, Mahmoodzadeh H, Ying Man F, Shoar N, et al. Bariatric surgery in morbidly obese patients with inflammatory bowel disease: A systematic review. Surg Obes Relat Dis. 2017;13:652–9.

7. Hudson JL, Barnes EL, Herfarth HH, Isaacs KL, Jain A. Bariatric Surgery Is a Safe and Effective Option for Patients with Inflammatory Bowel Diseases: A Case Series and Systematic Review of the Literature. Inflamm Intest Dis. 2019;3:173–9.

8. McKenna NP, Habermann EB, Sada A, Kellogg TA, McKenzie TJ. Is Bariatric Surgery Safe and Effective in Patients with Inflammatory Bowel Disease? Obes Surg. 2019;

9. Panteliou E, Miras AD. What is the role of bariatric surgery in the management of obesity? Climacteric. Taylor and Francis Ltd; 2017. p. 97–102.